RICHMOND GENIUS MAKES A WHEEL

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has not been from a lack of knowledge of the producing causes, but from their failure to devise the remedy. It has all along been known that the rapid falling off of emciency when working at less than full gate was due to the interfering with the direction of the currents of water flowing through the gates or guides of the casing to the buskets of the wheel in the casing, and to the breaking up of the well-defined ratio between the area of inlet and outlet. Any interference with either direction or area results in great loss of efficiency. The remedy, therefore, would be to devise a wheel in which neither the direction of water nor the ratio between the area of inlets and outlets would be interfered with, no matter at what power the wheel might be working.

Difficulties Overcome.

This is effectually accomplished in Mr. Shelton's creation. His invention is indeed novel, and yet withal so simple that the wonder is it was not discovered long ago. In other turbines it has been necessary, in order to reduce the flow of water through them or the power, to close all the gates or chutes to the wheel simultaneously, thereby changing the line of direction and reducing the area of inlet, while the area through the buckets would remain the same. In such a wheel it is impossible to keep up pressure which is power. In the Shelton wheel the gates or chutes are operated in pairs on opposite sides of the wheel. One movement of the gate operating mechanism opens two gates fully, while all the others remain closed. If more power is desired, another movement opens two more, and so on until all the gates are open. Reversing the movement closes the gates in successive pairs. By this arrangement both the proper direction of water and proper ratio of area are maintained, and the wheel rendered of high efficiency at all stages of the water or power, and, further, the wheel is thereby rendered steady and uniform in speed, which is so essential in electric plants, cotton mills, etc. By this construction, also, the gates operate easily and without undue friction under the highest head, and are quickly controlled by a governor. The buckets or blades of the wheel within the casing are also of improved design, but the details of construction cannot be here gone into, it being too technical to be understood by those not versed in such matters.

What a Test Shows.

It is sufficient to say that the entire design and construction of the wheel marks a new era in this class of machinery. One of these wheels of thirty inches diameter, built for the inventor more than two years ago by a well known machine shop of this city, was installed nearly two years ago, by Warner Moore & Co., in their Shockoe Flouring Mills, and they are highly pleased with results. The great power of the wheel may be imagined when it is stated that it is capable of driving the entire mill under twelve feet head of water. The mill was formerly driven by three other turbines of the best known make, but those in charge of the operation of the mill affirm that the new wheel will perform the work of all three, and with far less water.

Richmond Is Its Home.

The wheel has been named by the inventor the Ajax, and will be manufactured by the company. The company will be known as the Shelton Water Wheel and Machine Company, and a charter has already been secured. Some of Richmond's most successful business men are interested, and not a little of Northern capital has been invested in the plant.

It is stated by those familiar with the subject that there is a large demand for water wheels, particularly in the South, whose water powers are being rapidly converted into electricity and made to drive all kinds of mills and factories. With a wheel of such superior merit it may be safely asserted that its manufacture and sale will prove most profitable. The invention is fully protected by patents, both in this and foreign countries.

The strangest fact in connection with the whole thing is that the inventor is a lawyer in active practice at the Richmond bar, and is a man of scholarly attainments. However, Mr. Shelton was raised up in the milling and manufacturing business, his father before him being the owner and operator of large saw and flouring mills driven by water power. It was while at work for his father that Mr. Shelton acquired the mechanical knowledge which has been now so successfully and usefully applied. His subsequent college and professional life has never abated his love for machinery and interest in mechanics.

His turbine wheel will evidently prove to him more of a bonanza than his law office.

CAPE CHARLES HOW IT BECAME GREAT

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department, water and sewer system, ample police protection and such other benefits as proceed from and are associated with every incorporated municipality. The educational advantages are supplied by grammar and high school courses, which, under an efficient corps of educators, impart to the advanced students a liberal training to the point of admission to the higher institutions of learning, and the churches, six in number, and presided over by men of zeal and learning, cultivate and foster that Christian spirit which is the foundation of all true citizenship in the last analysis. All these churches have their religious societies for young and old, and these, with the several benevolent and fraternal organizations that flourish in the community, keep alive the most cordial relations.

Booms and Booms.

During the past two years over $150,000 were spent in the construction of new homes alone, besides an outlay of $50,000 made by the owners of land fronting the bay in extraordinary improvements required to convert the property into residential sites. This season the building boom has opened up in the most promising manner. According to reports from building material men and local contractors, at least one hundred new homes will be under construction and many more are in contemplation, their plans and contracts for construction having already been awarded.

Families from other points are arriving to make their homes here, the erection of the new railroad shops of the Pennsylvania Railroad now under operation and the extensive improvements being made to the freight house and dock have brought many mechanics here in the last few months. The real estate men are kept busy supplying homes for the new arrivals at this point.

An Active Agency.

The Cape Charles Board of Trade, composed of the business men of Cape Charles, was organized about two years ago for the purpose of giving intelligent discussion and deliberation to any measure, proposition or project affecting in any manner the welfare and progress of the community. This organization holds regular meetings in their own assembly rooms, where topics of timely interest are discussed and crystallized into organized effort. Its officers are John T. Daniel, president; M. H. Stevenson and J. W. Wilson, vice-presidents; I. J. Burbage, secretary; J. W. Jones, treasurer.

Up to about two years ago the town made slow progress in the way of building, although its growth was steady. Before that time the L. E. Mumford Bank, the Farmers' and Merchants' Bank, and the Parsons Block were erected, together with the Ice and Lumber Company's plant on Mason Avenue. These were the conditions as we observed them two years ago. Since that time it is a pleasure to note the extensive improvements that have taken place. The reclaiming of a portion of the town and land adjacent has caused an impetus in building operations, and the opening of new streets, with sewerage and water mains. The town officials have been abreast of the improvements in the building line, and have graded and drained a number of new streets. Coincident with this the property owners have laid new pavements and made other improvements to the fronts of their properties.

Groundless Fears.

Persons having investments in Cape Charles until recently looked with suspicion upon the movements of the Pennsylvania Railroad, fearing that at any moment it would change its plans for the future and abandon Cape Charles as a terminus and locate further down the Peninsula, but the vast improvements being made at this point by the Pennsylvania soon expelled that opinion.

To the New York, Philadelphia and Norfolk Railroad the town of Cape Charles owes its origination. Twenty-six years ago this line excited but little favor among the Pennsylvania officers. The struggle to bring Norfolk and Philadelphia closer together in a transportation sense had been a prolonged and a losing venture. Even as far back as 1835 passengers were carried down the Delaware River by boat to Dover, and then by tallyho post coaches to Seaford, Del., on the Nanticoke River, forty-six miles overland, where steamer was again taken to Norfolk. The Delaware Railroad, now the principal aftery of travel on the Peninsula, was designed to carry out the old project of connecting Dover and Seaford by rail.

Some History.

Many factors brought the scheme to an unpropitious end. Later the Delaware Railroad was connected with the Pennsylvania Railroad at Wilmington, and there was a through rail connection established to Seaford, where steamers took passengers and freight to Norfolk. This again was a failure. Yet later the Eastern Shore Railroad was built from Delmar to Crisfield, an ancient oyster village, where a line of steamers, known as the Anna Messic Line, sought to meet the demand for a thorough connection to Norfolk. It, too, suffered an inglorious death.

It now came to be the opinion of many that the only purpose of railroads on the Peninsula should be to serve the local needs. For this purpose a branch line of nine miles was built from the Eastern Shore Railroad, at King's Creek, to Pocomoke City. This branch was the original New York, Philadelphia and Norfolk Railroad Company, and it was destined to become the mother co-operation, eventually to turn the Eastern Shore road to Crisfield into a mere feeder for the main line.

Such in 1883 was the uninviting nucleus of the proposed railroad to Norfolk. It seemed that the possibilities of the region were thoroughly developed. It was the purpose to extend the line somewhere beyond, because the narrow peninsula was covered with a dense forest, underneath which was a sandy soil, which did not promise much freight tonnage. At Cape Charles trains were not to be unloaded, but the cars were to be pushed on barges and ferried across the Chesapeake to Norfolk—something then unheard of in either railroad or water transportation.

Cassatt's Vision.

But the harbor at Cape Charles was very shallow and the proposed plan of carrying loaded freight cars on a barge across thirty-six miles of water, often very stormy, was regarded as visionary in the extreme.

But the late A. J. Cassatt, then president of the Pennsylvania system, foresaw the time when the Peninsula forest should be cut down and the land become a wonderful producer of fruits and vegetables. He determined to spend his own money building a harbor at Cape Charles in case he could not induce the United States government to do it. A channel 1,000 by 600 feet was accordingly dredged by the company so as to afford twelve feet of water at low tide.

Then Mr. Cassatt declared that the way to get cars across the Chesapeake Bay in barges was to carry them. So successful has this plan proven, the same principle has been adopted at numerous other places, notably on the Great Lakes. At the start the barges were designed to handle only eighteen cars, whereas at the present time the company owns fifteen large steel car floats, most of which have a capacity of thirty cars, which amounts to a full train of fast freight for each barge. An idea of how this barge traffic has developed in recent years may be observed in the fact that while in 1900 the company moved 578,000 tons of freight by barge, and handled 37,000 loaded and 10,000 empty cars over its ferries, in 1907 the number of tons of freight moved in this way amounted to 105,090 loaded and 33,000 empty.

The Big Results.

Though Mr. Cassatt might overcome the physical difficulties which presented themselves, there was yet another difficulty, which, to the practical railroad man, seemed even more serious. All the railroads which then entered Norfolk were accustomed to transit to Northern points by steamship. The railroads themselves owned a large interest in these boat lines, so that the traffic agreements between the rail and water lines seemed almost impossible to break through, especially as the boat service was very well developed and the rates low.

Thus it has come to pass that during the spring and summer the Norfolk and Southern Railroad, for example, delivered to the New York, Philadelphia and Norfolk line about 200 carloads of perishable products each day. Perishable products contribute about 14 per cent. of the revenue of the New York, Philadelphia and Norfolk. In 1900 the company shipped only 141,266 barrels of potatoes, while in 1907 the figure amounted to 2,064,778 barrels. In 1900 the company handled 14,511 cars of perishable products, while in 1907 the number was 20,691. A large proportion of the land from Delmar to Cape Charles, and an almost indefinite acreage along the line of the railroad south of Norfolk are still available for trucking purposes.

DEALERS AWAIT TOBACCO CROP

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small and sold generally at full prices, though composed of the odds and ends of the crop.

The sales for the season, comprising the past 11 months, foot up 36,029,949 pounds, for the sum of $3,894,400.87; being an average of $10.81, as compared with the crop of 1908. These figures show a decrease of upwards of 3,000,000 pounds in the total sales, but an increase of $178,263.75 in the amount realized, which is an increase of $1.04 in the average over the 1908 crop.

Trading in redried tobacco is active.

Bright Tobacco Prospects.

[Special to The Times-Dispatch.]

Farmville, Va., July 2.—The growing crop of tobacco is looking fine throughout this entire section, some of it being already in top. The acreage is equally as large as last year, with the quality outlook as bright. A few farmers have put in only the Burley type, which, from the experience of some growers last season, proves to be a profitable kind of weed to produce.

The Farmville Agricultural Fair, which, by the way, was omitted from the list of fairs issued by Commissioner of Agriculture Koiner, is offering large premiums on tobacco and corn. The Farmville Fair dates are October 25, 26, 27 and 28.

IN JOBBING CIRCLES.

Big Orders Being Booked for Fall Supplies—Crop Prospects Help Trade.

So far as immediate shipments are concerned, the Richmond jobbers are enjoying a midsummer dullness, and they are really enjoying it. The spring trade was just that active that the men in every line need a little rest. However, the drummers on the road are not getting any rest, and, indeed, they are not seeking any. They are booking many large orders for shoes and dry goods and millinery and clothing and hats for fall shipments. As a general rule, the drummers report active business for fall deliveries in the Carolinas, in Virginia, Tennessee, Kentucky, Georgia and in fact all of the Southern States.

The fear of short crops, which six weeks ago hung like a heavy cloud over the country, has now been dissipated, thanks to splendid growing weather and good seasons, and the country merchants are not hesitating to greatly enlarge their orders.

In all lines the jobbers are in much better humor than they were a few weeks ago. This optimism is perhaps more noticeable among the dry goods and shoe men and the clothing dealers. The grocery men are always optimistic, because well they know that the people must eat, whether they wear shoes and good clothes or not.

Record for Unimproved Land.

[Special to The Times-Dispatch.]

Leesburg, Va., July 2.—Mrs. Rachel Paxson has sold to Lawrence Lee eight acres of land in the northern suburbs of Leesburg. The lot is unimproved, and the price paid—$4,280—is the record price for unimproved real estate in Loudoun county for residential purposes. The property adjoins the late home of R. Henry Lynn and Mrs. Paxson.